

CLAIM AMENDMENTS

1. (currently amended) An on-chip inductor comprises:

dielectric layer; and

conductive winding on the dielectric layer, wherein the conductive winding has a substantially square geometry, wherein corners of the conductive winding are geometrically shaped to reduce impedance of the on-chip inductor at an operating frequency with negligible effects on inductance of the on-chip inductor.

2. (original) The on-chip inductor of claim 1, wherein the geometric shaping of the corners further comprises:

an interior angle per corner of approximately ninety degrees; and

an exterior angle per corner of approximately one hundred thirty-five degrees.

3. (original) The on-chip inductor of claim 1, wherein the geometric shaping of the corners further comprises:

an interior angle per corner of approximately one hundred thirty-five degrees; and

an exterior angle per corner of approximately one hundred thirty-five degrees.

4. (original) The on-chip inductor of claim 1, wherein the conductive winding further comprises:

a spiral configuration, wherein the corners of the spiral configuration are geometrically shaped to reduce impedance of the on-chip inductor at the operating frequency.

5. (original) The on-chip inductor of claim 1, wherein the conductive winding further comprises:

a first winding on a first layer;

a second winding on a second layer; and

at least one bridge connecting the first winding to the second winding.

6. (original) The on-chip inductor of claim 1, wherein the geometric shaping of the corners further comprises:

angled exterior corners, wherein at least one angle per exterior corner reduces current turbulence in the corner at the operating frequency.

7. (original) The on-chip inductor of claim 6, wherein the geometric shaping of the corners further comprises:

angled interior corners, wherein at least one angle per interior corner further reduces current turbulence in the corner at the operating frequency.

8. (currently amended) An on-chip transformer comprises:

primary conductive winding that has a substantially square geometry, wherein corners of the primary conductive winding are geometrically shaped to reduce impedance of the primary conductive winding at an operating frequency with negligible effects on inductance of the primary conductive winding; and

secondary conductive winding that has a substantially square geometry, wherein corners of the secondary conductive winding are geometrically shaped to reduce impedance of the secondary conductive winding at an operating frequency with negligible effects on inductance of the secondary conductive winding, wherein the secondary conductive winding is magnetically coupled to the primary conductive winding.

9. (original) The on-chip transformer of claim 8, wherein the geometric shaping of the corners further comprises:

an interior angle per corner of approximately ninety degrees; and

an exterior angle per corner of approximately one hundred thirty-five degrees.

10. (original) The on-chip transformer of claim 8, wherein the geometric shaping of the corners further comprises:

an interior angle per corner of approximately one hundred thirty-five degrees; and

an exterior angle per corner of approximately one hundred thirty-five degrees.

11. (original) The on-chip transformer of claim 8 further comprises:

dielectric layer;

the primary conductive winding on the dielectric layer, wherein the primary conductive winding includes a spiral configuration, wherein the corners of the spiral configuration are geometrically shaped to reduce impedance of the primary conductive winding at the operating frequency; and

the secondary conductive winding on the dielectric layer, wherein the secondary conductive winding includes a secondary spiral configuration interwoven with the spiral configuration of the primary conductive winding, wherein the corners of the secondary spiral configuration are geometrically shaped to reduce impedance of the secondary conductive winding at the operating frequency.

12. (original) The on-chip transformer of claim 8 further comprises:

first dielectric layer;

the primary conductive winding on the first dielectric layer, wherein the primary conductive winding includes a spiral configuration, wherein the corners of the spiral configuration are geometrically shaped to reduce impedance

of the primary conductive winding at the operating frequency;

second dielectric layer juxtaposed to the primary conductive winding; and

the secondary conductive winding on the secondary dielectric layer, wherein the secondary conductive winding includes the spiral configuration, wherein the corners of the spiral configuration are geometrically shaped to reduce impedance of the secondary conductive winding at the operating frequency.

13. (original) The on-chip transformer of claim 8, wherein each of the primary and secondary conductive windings further comprises:

a first winding on a first layer;

a second winding on a second layer; and

at least one bridge connecting the first winding to the second winding.

14. (original) The on-chip transformer of claim 8, wherein the geometric shaping of the corners further comprises:

angled exterior corners, wherein at least one angle per exterior corner reduces current turbulence in the corner at the operating frequency.

15. (original) The on-chip transformer of claim 14, wherein the geometric shaping of the corners further comprises:

angled interior corners, wherein at least one angle per interior corner further reduces current turbulence in the corner at the operating frequency.

16. (cancelled)

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18. (cancelled)

19. (cancelled)

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26. (cancelled)

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28. (cancelled)

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30. (cancelled)